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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,991	07/04/2001	Sam Shiaw-Shiang Jiang	ASTP0015USA	1170
27765	7590	02/23/2004	EXAMINER	
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)			SHOU, HENRY K	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	

2664

DATE MAILED: 02/23/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/681,991

Applicant(s)

JIANG, SAM SHIAW-SHIANG

Examiner

Henry K Shou

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04-July-2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1 The drawings are objected to because the following minor informalities: Figures 1-6 should be drawn in a way that any photocopy or electronically scan copy of these original drawings should be still legible. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2 Claims 1-5 are rejected under 35 U.S.C. 102(a) as being anticipated by the radio telecommunication standard entitled **3GPP Technical Specification Group Radio Access Network RLC protocol specification (TS 25.322 V3.7.0 2001-06)**, hereinafter referred to as **3GPP**.

In regard to claim 1, 3GPP discloses, in the *section 4.2.1.3 Acknowledged mode entity* from page 11 to 13, that a wireless communications device adapted to transact multi-layered communications with a second wireless device (*The transmitting side of the AM-entity receives SDUs from the upper layers*, page 12 1<sup>st</sup> paragraph line 1), the wireless communications device

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comprising a processor (*RLC Control Unit* of Figure 4.4), and a program in memory to be executed by the processor to effect a multi-layered communications protocol, the multi-layered communications protocol comprising a layer 3 interface in communications with a layer 2 interface (*Although the subject matter a program in memory and its claimed function is not expressly shown in 3GPP, it must be inherently existed in the system because that each RLC entity is built on a full-blown computer system, i.e. base station, or an embedded microcomputer-chip-based intelligent gadget such as UE cell phone. They all have their main memory and at least some storage memory to allow the software to load into main memory from its storage memory like eeprom to execute and accomplish the RLC protocol.*), the layer 2 interface having layer 2 communications data (PDUs, page 12 1<sup>st</sup> paragraph line 2), the layer 2 interface comprising: a null state in which the layer 2 interface has no established layer 2 wireless connection with the second wireless device; a data transfer state in which the layer 2 interface is in wireless communications with a layer 2 interface on the second wireless device and transmits the layer 2 communications data to the layer 2 interface on the second wireless device, the processor switching from the null state to the data transfer state according to an establish primitive from the layer 3 interface (*Upon reception of a CRLC-CONFIG-Req from upper layer indicating (re)establish, the RLC entity is created and the acknowledged data transfer ready state is entered, see section 9.3.3.1 Null State 2<sup>nd</sup> paragraph at page 32*), and switching from the data transfer state to the null state according to a release primitive from the layer 3 interface (*Upon reception of a CRLC-CONFIG-Req from upper layer indicating release, the RLC entity is terminated and the null state is entered, see section 9.3.3.2 Acknowledged Data Transfer Ready State 1<sup>st</sup> paragraph at page 32*); a reset pending state in

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which the layer 2 interface is in wireless communications with the layer 2 interface on the second wireless device and the transmission of the layer 2 communications data is halted (*In the reset pending state the entity waits for a response from its peer entity and no data can be exchanged between the entities*, section 9.3.3.3 1<sup>st</sup> paragraph lines 1-2), the processor switching from the data transfer state to the reset pending state when a protocol error is found by the layer 2 interface (*Upon errors in the protocol, the RLC entity sends a RESET PDU to its peer and enters the reset pending state*, see section 9.3.3.2 Acknowledged Data Transfer Ready State 2<sup>nd</sup> paragraph at page 32), switching from the reset pending state to the data transfer state according to a reset acknowledge signal received from the second wireless device (*Upon reception of a RESET ACK PDU with the same RSN value as in the corresponding RESET PDU, the RLC entity resets the protocol (see subclause 11.4.4), ..... and enters the acknowledged data transfer ready stat*, see section 9.3.3.3 Reset Pending State 2<sup>nd</sup> paragraph at page 33), and switching from the reset pending state to the null state according to the release primitive from the layer 3 interface (*Upon reception of a CRLC-CONFIG-Req from upper layer indicating release, the RLC entity is terminated and the null state is entered*, see section 9.3.3.3 Reset Pending State 1<sup>st</sup> paragraph at page 33); a local suspend state in which the layer 2 interface is in wireless communications with the layer 2 interface on the second wireless device and halts the transmission of the layer 2 communications data after a predetermined event indicated by the layer 3 interface (*In the Local Suspend state RLC shall not send an RLC-PDUs with  $SN \geq VT(S) + N$ , where  $VT(S)$  is the value of the send state variable when the CRLC-SUSPEND-Req with parameter  $N$  was received*, see section 9.3.3.4 Local Suspend State 1<sup>st</sup> paragraph at page 33 lines 1-2), the processor switching from the data transfer state to the local suspend state

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according to a suspend primitive from the layer 3 interface, switching from the local suspend state to the data transfer state according to a resume primitive from the layer 3 interface (*Upon reception of CRLC-RESUME-Req from upper layers in this state, the RLC entity is resumed and the Acknowledged Data Transfer Ready state is entered*, , see section 9.3.3.4 Local Suspend State 1<sup>st</sup> paragraph lines 2-3 at page 33), and switching from the local suspend state to the null state according to the release primitive from the layer 3 interface (*Upon reception of CRLC-CONFIG-Req from upper layer indicating release, the RLC entity is terminated and the null state is entered*, see page 34 lines 1-2); and a reset/suspend state in which the layer 2 interface is in wireless communications with the layer 2 interface on the second wireless device and the transmission of the layer 2 communications data is halted (*In the reset and suspend state the entity waits for a response from its peer entity and no data can be exchanged between the entities*, see section 9.3.3.5 Reset and Suspend State 1<sup>st</sup> paragraph lines 1-2 at page 34), the processor switching from the reset/suspend state to the reset pending state according to the resume primitive from the layer 3 interface (*Upon reception of CRLC-RESUME-Req from upper layer in this state, the RLC entity is resumed and the reset pending state is entered*, see section 9.3.3.5 Reset and Suspend State 3<sup>rd</sup> paragraph lines 1-2 at page 34), switching from the reset pending state to the reset/suspend state according to the suspend primitive from the layer 3 interface (*Upon reception of CRLC-SUSPEND-Req from upper layer, the RLC entity is suspended and the reset and suspend state is entered*, see section 9.3.3.3 Reset Pending State 5<sup>th</sup> paragraph at page 33), switching from the reset/suspend state to the local suspend state according to the reset acknowledge signal received from the second wireless device (*Upon reception of a RESET ACK PDU ..... and enters the local suspend state*, see section 9.3.3.5 Reset and

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Suspend State 2<sup>nd</sup> paragraph at page 34), switching from the local suspend state to the reset/suspend state when a protocol error is found by the layer 2 interface (*Upon reception of CRLC-RESUME-Req from upper layer in this state, the RLC entity is resumed and the reset pending state is entered*, see section 9.3.3.4 Local Suspend State 3<sup>rd</sup> paragraph at page 34), and switching from the reset/suspend state to the null state according to the release primitive from the layer 3 interface (*Upon reception of CRLC-CONFIG-Req from upper layer indicating release, the RLC entity is terminated and the null state is entered*, see section 9.3.3.5 Reset and Suspend State 1<sup>st</sup> paragraph lines 2-3 at page 34).

In regard to claim 2, 3GPP discloses, in *section 9.3.3.3 Reset Pending State* at page 33, that the wireless communications device of claim 1 wherein the memory further comprises a reset routine for resetting the layer 2 interface (the RLC entity *resets the protocol (see subclause 11.4.4)*, see second paragraph line 2), and the processor executes the reset routine when the processor switches from the reset pending state to another state (Upon reception of a RESET ACK PDU with the same RSN value as in the corresponding RESET PDU, the RLC entity *resets the protocol (see subclause 11.4.4)*, ..... and *enters the acknowledged data transfer ready state*, see 2<sup>nd</sup> paragraph).

In regard to claim 3, 3GPP discloses, in *section 9.3.3.2* page 32 line 5, that the wireless communications device of claim 2 wherein when the processor is in the data transfer state (*Acknowledged Data Transfer Ready State*, section title) and is switching to the reset pending state when a protocol error is found by the layer 2 interface, the wireless communications

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device transmits a reset signal to the second wireless device (*Upon errors in the protocol, the RLC entity sends a RESET PDU to its peer and enters the reset pending state*, line 5).

In regard to claim 4, 3GPP discloses, in *section 9.3.3.2* page 32 lines 7-9, that the wireless communications device of claim 2 wherein when the processor is in the data transfer state (*Acknowledged Data Transfer Ready State*, section title) and receives a reset signal from the second wireless device, the processor executes the reset routine, and the wireless communications device transmits a reset acknowledge signal to the second wireless device (*Upon reception of a RESET PDU, the RLC entity resets the protocol (see subclause 11.4.3), ..... and responds to the peer entity with a RESET ACK PDU*).

In regard to claim 5, 3GPP discloses, in *section 9.3.3.5 Reset and Suspend State* at page 34, that the wireless communication device of claim 1 wherein the layer 2 interface comprises a finite state machine to implement the reset/suspend state.

### *Conclusion*

3 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gray et al. (US Patent No 6,473,419 B1), State apparatus and associated methods, for controlling packet data communications in a radio communication system

Abbadessa et al. (US Patent No 6,192,244 B1), Analysis of neighboring cells in cellular telecommunication systems

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**Ganesan et al.** (US Patent No 5,812,951), Wireless personal communication system


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry K Shou whose telephone number is (703) 305-7457. The examiner can normally be reached on weekdays 7 AM – 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305-4798. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

HKS

January 20, 2004

  
RICKY NGO  
PRIMARY EXAMINER